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Combat Stress, Psychosocial Adjustment, and Service Use Among Homeless Vietnam Veterans

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Clinical data were gathered on 627 homeless Vietnam veterans evaluated in a Department of Veterans Affairs clinical program for homeless mentally ill veterans. More than two-fifths (43 percent) of the 627 veterans showed evidence of combat stress that was associated with more severe psychiatric and substance abuse problems, although not with greater social dysfunction. In comparison with Vietnam veterans assessed in a national epidemiological study, homeless veterans were severely socially and vocationally dysfunctional. While homeless mentally ill veterans with combat stress used VA mental health services more frequently than did homeless mentally ill Vietnam veterans with other disorders, many received no mental health services. Combat stress appears to be a significant problem among homeless mentally ill Vietnam veterans.

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Considerable attention has been focused in recent years on the plight of homeless mentally ill Americans (1). Particular concern has been expressed that veterans who served in Southeast Asia during the Vietnam War and who suffer from combat-related posttraumatic stress disorder (PTSD) might constitute a substantial subgroup of the homeless mentally ill population (2,3).

A recent national epidemiological study, the National Vietnam Veterans Readjustment Study (NVVRS), reported that more than a decade after the last American soldier left Vietnam, 15.2 percent of male Vietnam veterans continue to suffer from PTSD (4). The study found that PTSD among these veterans is strongly associated with other psychiatric, substance abuse, and social adjustment problems, as well as with a history of homelessness.

In a previous paper, we reported data on more than 5,000 homeless veterans who were assessed in the U.S. Department of Veterans Affairs' Homeless Chronically Mentally Ill (HCMI) Veterans Program and who served in the U.S. armed forces during the Vietnam era (August 7, 1964, to May 5, 1975) (5). Forty-five percent of these veterans reported service in the Vietnam theater, about the same proportion as in the general population of Vietnam-era veterans (6). However, those who reported having been under fire during service in a combat zone had more frequent psychiatric problems than other veterans, suggesting that combat stress might be a significant problem among homeless mentally ill Vietnam veterans (5).

This paper presents more extensive data on a subset of veterans assessed in the HCMI Veterans Program. The purpose of the study was to determine more directly whether combat stress is a significant clinical problem in this population. The study focused on the prevalence of combat stress among homeless mentally ill Vietnam veterans, the relationship of combat stress to other mental health and social adjustment problems, and patterns of service utilization among veterans with and without combat stress.

Methods

Sample and data collection. Data were collected between May 15, 1987, and March 31, 1988, by VA mental health clinicians as part of a national evaluation of the HCMI Veterans Program. This clinical program, in operation at 43 VA medical centers across the country, provides outreach, case management, and time-limited residential treatment to homeless veterans with psychiatric and substance abuse problems. Homelessness in this clinical program is defined as the lack of a reliable, adequate nighttime residence. At the time of assessment, the vast majority of veterans served by this program were living in shelters or on the streets (7).

During the first ten months, 10,529 veterans were screened for the program using the 91-item Intake Form for Homeless Veterans (IFHV) (7). Those who were admitted to residential treatment or who were intensively engaged in case management (N=3,701) were further assessed using the more detailed Homeless Veterans Evaluation Battery (HVEB).

This study presents data on the subgroup of veterans (N=627) who were assessed with both the IFHV form and the HVEB and who met three additional conditions: they

were male; they reported receiving combat pay during the Vietnam era, and thus were presumed to have served in the Vietnam theater; and they had been homeless for a month or more at the time of intake.

Veterans in the study sample were similar in age, race, military service history, and current substance abuse to the much larger group of male Vietnam veterans who were screened for the program but not assessed with the HVEB. As one would expect in a subgroup receiving more intensive case management and residential psychiatric treatment, 6 to 10 percent more veterans in the study sample had a past hospitalization for psychiatric or substance abuse problems, and 12 percent more had indications of major psychiatric disorder on the Psychiatric Problem Index (5).

Although this was a clinical sample, veterans entered the program by a variety of routes. More than half (52.5 percent) were initially contacted through community outreach efforts in shelters and soup kitchens away from VA facilities, 27.2 percent came to VA facilities on their own, and 20.3 percent were referred by other routes. No significant associations were found between route of program entry and measures of combat stress and psychiatric or substance abuse problems.

Instruments. The 91-item IFHV documented demographic and military service characteristics, past psychiatric and substance abuse hospitalization, and current alcohol, drug, and psychiatric problems (7). The HVEB included assessments of educational background, marital status, employment, current income, disability status, criminal history, duration of current homelessness, length of current residence in the city in which the veteran was interviewed (an indicator of residential transience), and health service utilization during the previous six months.

Psychiatric, alcohol, and drug problems of the study sample were assessed using selected items from the Addiction Severity Index (ASI) (8). They were analyzed as individual items and as composite indexes using the methods for combination that were suggested by McLellan and colleagues (9).

Table 1
Psychiatric and substance abuse histories of 627 homeless Vietnam veterans, by presence or absence of combat stress

Problem indicator	No combat stress (N=356) N	%	Combat stress (N=271) N	%	$\chi^{2\dagger}$	p
Psychiatric						
Psychiatric hospitalization	134	37.6	137	50.5	9.93	<.01
Outpatient psychiatric treatment	106	29.8	124	45.8	16.23	<.001
Suicide attempt in past 30 days	13	3.7	25	9.2	7.44	<.01
Past suicide attempt	82	23.0	107	39.5	18.99	<.001
Substance abuse						
Hospitalization for alcohol abuse	179	50.3	152	56.1	1.86	ns
Hospitalization for drug abuse	78	21.9	81	29.9	4.76	<.05
Heroin use[1]	60	16.9	74	27.3	9.39	<.01
Amphetamine use[1]	67	18.8	54	19.9	.06	ns
Cocaine use[1]	76	21.3	79	29.2	4.62	<.05

† df=1 for all comparisons
[1] For one or more years

Assessment of combat stress. The four *DSM-III-R* diagnostic criteria for PTSD are evidence of a traumatic stressor; experiences of reliving the trauma; numbed emotions or lack of involvement in significant activities; and evidence of hyperarousal, sleep disturbance, or other specified symptoms (10). Service in the Vietnam theater was assumed to be a stressor for all homeless Vietnam veterans.

Field experience with the homeless, however, suggested that homelessness itself frequently produces positive responses to questions about numbing and lack of involvement and hyperarousal and sleep disturbance. Since these responses could not be clearly attributed to past combat experiences, only experiences of reliving combat-related trauma were used to assess combat stress. Veterans were asked if during the past 30 days they had experienced a painful memory about combat experience, a nightmare about combat, or a flashback in which they relived combat experiences. Those reporting two of these three symptoms were considered to show evidence of combat stress.

Validity. The validity of combat stress as an indicator of PTSD and as an aftereffect of combat exposure was tested on a sample of 152 homeless Vietnam veterans at nine sites who were further evaluated with the Mississippi Scale for Combat-Related PTSD (11) and a well-validated Combat Scale (12). A Mississippi Scale score of 107, an empirically established cutoff score for clinical populations (11), was chosen as a threshold for probable PTSD.

Using this cutoff score, our combat stress measure proved to be a fairly accurate, although conservative, indicator of PTSD, with a sensitivity of 67 percent and a specificity of 85 percent. It must be acknowledged that, as noted above, the general characteristics of homeless persons may confound this assessment of validity by falsely elevating Mississippi Scale scores. The relatively low sensitivity of our combat stress measure in detecting PTSD (as determined by the Mississippi Scale) may be a result of this spurious elevation of Mississippi Scale scores.

On the Combat Scale, veterans with combat stress were 3.6 times more likely than veterans without such stress to have been exposed to either moderate or high levels of combat (odds ratio=3.57, 95 percent confidence interval=1.3 to 9.8).

Comparisons. Differences between veterans with combat stress and those without such stress were

Table 2
Comparison of 627 homeless Vietnam veterans and male Vietnam veterans in the general population[1]

Characteristic	Homeless veterans: No combat stress (N=356) N	%	Combat stress (N=271) N	%	Total (N=627) N	%	% of veterans in general population (N=1,197)
Years of education							
Less than 12	43	12.1	43	15.9	86	13.7	6.4
12 years	176	49.4	123	45.4	299	47.7	34.3
More than 12	137	38.5	105	38.7	242	38.6	59.3
Marital status							
Married or widowed	24	6.7	16	5.9	40	6.4	75.5
Separated or divorced	236	66.3	194	71.6	430	68.6	12.5
Never married	96	27.0	61	22.5	157	25.0	12.0
Currently employed	257	72.2	179	66.1	436	69.5	90.5
Income over $1,500 a month	4	1.1	3	1.1	7	1.1	82.6
Arrested or jailed	162	45.5	122	45.0	284	45.3	30.5
Disability benefits							
Any VA	44	12.4	24	8.9	68	10.8	13.0
VA psychiatric[2]	11	3.1	25	9.2	36	5.7	na[3]
Non-VA	23	6.5	17	6.3	40	6.4	na
Current homelessness							
One month to one year	195	54.8	143	52.8	338	53.9	na
One to two years	55	15.4	37	13.7	92	14.7	na
More than two years	106	29.8	91	33.6	197	31.4	na
Years lived in city where interviewed							
Less than one year	102	28.7	63	23.2	165	26.3	5.1
One to ten years	109	30.6	98	36.2	207	33.0	37.8
More than ten years	140	39.3	108	39.9	248	39.6	57.1

[1] Based on findings from the National Vietnam Veterans Readjustment Survey (4)
[2] $\chi^2=9.59$, df=1, $p<.01$
[3] Data not available

evaluated using the chi square test for categorical variables and the t test for continuous variables. Normative data about Vietnam veterans in the general population were drawn from the NVVRS (4).

Results

Sample characteristics. The mean± SD age of homeless Vietnam veterans assessed in this study was 39±3 years. Almost two-thirds (59 percent) were white, 31.3 percent were black, 7.7 percent were Hispanic, and 2 percent were from other races. While the proportion of blacks in the sample was far larger than the 11.5 percent in the general population of Vietnam veterans (4), it is typical of the proportion of blacks found among homeless persons (1).

A total of 53.9 percent of the Vietnam veterans assessed in this study had been homeless from one to 11 months, 14.7 percent from one to two years, and 31.4 percent for two years or more, proportions similar to those reported in other studies of homeless persons (1).

Combat stress. Of the 627 veterans in the sample, 43 percent met criteria for combat stress. The prevalence of combat stress was significantly higher among nonwhites (48.6 percent) than among whites (39.5 percent) ($\chi^2=4.83$, df=1, $p<.05$), which is consistent with findings from the NVVRS that nonwhite veterans were more likely to meet diagnostic criteria for PTSD than white veterans (4).

Psychiatric status and substance abuse. Veterans with combat stress had more severe current psychiatric problems and alcohol problems than veterans without combat stress (ASI psychiatric index=.36 and .23, respectively; $t=8.52$, df=541, $p<.001$; and ASI alcohol index=.31 and .25, respectively; $t=2.30$, df=532, $p<.02$). Differences between the two groups in current drug use followed the same trend but reached only marginal statistical significance (ASI drug index=.09 for veterans with combat stress and .08 for those without it; $t=1.88$, df=518, $p<.06$). These trends were consistently observed for whites and nonwhites, although only the ASI psychiatric index was statistically significant within all racial groups.

As shown in Table 1, veterans with combat stress also reported significantly more frequent psychiatric hospitalization, psychiatric outpatient treatment, suicide attempts in the past 30 days, and lifetime suicide attempts. Although the groups were similar in their current drug use, Vietnam veterans with combat stress were significantly more likely than Vietnam veterans without it to have been hospitalized for drug abuse ($\chi^2=4.76$, df=1, $p<.05$) and to report a history of heroin use ($\chi^2=9.39$, df=1, $p<.01$) or cocaine use ($\chi^2=4.62$, df=1, $p<.05$).

Social adjustment. As shown in Table 2, no significant differences emerged between homeless veterans with combat stress and homeless veterans without such stress in level of education, marital status, current employment, income, criminal history, duration of homelessness, or time they had lived in the city in which they were interviewed. However, when Vietnam veterans assessed in the HCMI program were compared with Vietnam veterans in the general population, dramatic differences in all these areas were apparent for both veterans with combat stress and those without it, indicating severe social and vocational problems.

Disability benefits and health service utilization. As shown in Table 2, homeless veterans with combat stress were more likely than homeless veterans without such

Table 3
Health service utilization by 627 homeless Vietnam veterans, by presence or absence of combat stress

Type of service	No combat stress (N=356)		Combat stress (N=271)	
	N	%	N	%
VA outpatient services				
Medical-surgical	116	32.6	92	33.9
Mental health clinic[1]	69	19.4	79	29.2
Emergency room[2]	72	20.2	84	31.0
Readjustment counseling center[3]	54	15.2	82	30.3
Any outpatient[4]	185	52.0	173	63.8
Non-VA outpatient services				
Psychiatric clinic	42	11.8	40	14.8
Any non-VA clinic	141	39.6	110	40.6
Self-help groups such as Alcoholics Anonymous	105	29.5	70	25.8
Inpatient hospitalizations				
VA medical-surgical	46	12.9	49	18.1
VA psychiatric or substance abuse[5]	88	24.7	90	33.2
Non-VA medical-surgical	32	9.0	27	10.0
Non-VA psychiatric	28	7.9	22	8.1

[1] $\chi^2=7.61$, df=1, $p<.01$
[2] $\chi^2=8.98$, df=1, $p<.001$
[3] $\chi^2=19.74$, df=1, $p<.001$
[4] $\chi^2=8.37$, df=1, $p<.01$
[5] $\chi^2=5.04$, df=1, $p<.05$

stress to receive VA service-connected disability benefits for a psychiatric disorder. When the two groups were combined, the proportion receiving any VA disability benefits (10.8 percent) was about the same as in the general population of Vietnam veterans (13 percent) (4). There were no differences in receipt of non-VA disability payments.

As shown in Table 3, homeless veterans with combat stress were more likely than homeless veterans without it to make use of most types of VA outpatient services, VA medical-surgical services being the sole exception. Veterans with combat stress were also more likely to use VA psychiatric inpatient programs than veterans without such stress. There were no significant differences between the two groups in utilization of non-VA outpatient clinics or inpatient programs.

Discussion

Two methodological limitations of this study require comment. First, the data concern the prevalence and correlates of combat stress in a sample of homeless veterans who expressed interest in receiving VA services. As a result, our findings cannot be confidently generalized to all homeless Vietnam veterans, and our sample is likely to include a disproportionately high representation of prior VA service users.

A second limitation involves the measurement of combat stress and combat exposure. Although our measure of combat stress corresponded fairly well with a widely respected measure of PTSD, data are not available on the reliability of our measure. In addition, service in the Vietnam theater was not validated through a review of military service records. Implicit incentives exist for veterans seeking help from the VA to inflate reports of prior combat experience, and the extent of this exaggeration cannot be determined for this sample.

In spite of these shortcomings, these are the first data on symptoms of war stress to be collected on a large sample of currently homeless Vietnam veterans. The data demonstrate that as many as 43 percent of homeless mentally ill Vietnam veterans show evidence of combat stress. It thus appears that in spite of the availability of VA medical and financial support programs, a substantial number of veterans who served in Vietnam are found among the homeless mentally ill population. Among these veterans are a large number who continue to suffer from the aftereffects of their Vietnam service.

Although comparisons between this clinical sample and the representative community sample obtained from the National Vietnam Veterans Readjustment Study must be interpreted with great caution, it is notable that the percentage of Vietnam veterans with combat stress in the Department of Veterans Affairs' Homeless Chronically Mentally Ill Veterans Program was almost three times the percentage of Vietnam veterans with PTSD reported by the NVVRS (15.2 percent) (4). In the NVVRS, veterans who experienced only one of the three *DSM-III-R* symptom criteria were classified as having "partial PTSD" (4). In its brevity and its focus on only one PTSD symptom group, our measure of combat stress may be closer to this less stringent NVVRS diagnostic category than to the full diagnosis of PTSD. A total of 26 percent of Vietnam veterans in the NVVRS met criteria for either full or partial PTSD, which was still a substantially smaller percentage than the 43 percent of Vietnam veterans assessed in the HCMI Veterans Program who met our criteria for combat stress.

A major finding of the NVVRS was that Vietnam veterans diagnosed with PTSD suffer from other psychiatric disorders, from substance abuse disorders, and from various social adjustment problems considerably more frequently than those without PTSD. Among homeless Vietnam veterans assessed in this study, those with combat stress were also found to experience more severe psychiatric and substance abuse problems than those without combat stress, but the veterans with combat stress did not report more frequent social adjustment difficulties.

Dramatic contrasts in social adjustment were apparent, however, between the two groups of homeless Vietnam veterans and their counterparts in the general population. This finding suggests that social adjustment problems that might be specifically associated with combat stress are obscured among homeless veterans by their generally abysmal life circumstances.

Homeless veterans suffering from combat stress were more likely than homeless veterans without such stress to receive both VA disability payments and VA mental health services, although substantial numbers of those with combat stress were receiving neither disability payments nor mental health services. These findings are also consistent with those of the NVVRS, which found that veterans with PTSD were more likely than others to be users of VA mental health services, but that only 10 percent were current users of such services (4).

Although precise comparisons cannot be made between the proportion of veterans with combat stress in the HCMI Veterans Program and prevalence estimates of PTSD in the general population of Vietnam veterans, our data indicate that a sizable proportion of homeless mentally ill Vietnam veterans suffer combat stress that is accompanied by serious psychiatric and substance abuse problems as well as by severe social and vocational dysfunction. Homeless mentally ill Vietnam veterans appear to be significantly underserved and in need of specialized services directed at both their combat-related psychiatric problems and their severe housing, financial, and social difficulties.

Although in appearance these veterans only faintly resemble the young men who went to war so many years ago, the relevance of their past wartime service to their current distress should not be underestimated. Clinicians encountering veterans in specialized clinics for the homeless, in outreach programs, and in hospital emergency rooms should take a careful military service history. An accurate and empathic review of combat history is as important in the treatment of homeless combat veterans as it is in the treatment of their domiciled counterparts in the general population (13).

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